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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,870	10/01/2004	Ulrich Cramer	HM-597PCT	4970

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FRIEDRICH KUEFFNER
317 MADISON AVENUE, SUITE 910
NEW YORK, NY 10017

EXAMINER

SUHOL, DMITRY

ART UNIT	PAPER NUMBER
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3725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/509,870

Applicant(s)

CRAMER ET AL.

Examiner

Dmitry Suhol

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the disclosure makes reference to the claims, this is inappropriate.

Applicants amendment to the specification has been acknowledged, however applicants have amended the paragraph prior to the one that refers to the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-7, 9, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038) in view of Miyaguchi (JP 11226625) and Kamio et al '453. Bender discloses an apparatus for cooling rolling stock containing most of the claimed elements, including with reference to claim 1, stationary water spray devices (8) installed below the rolling stock between rollers of a roller table (figure 3), and spray bars (3) held on support levers (21) are installed above the rolling stock (figure 1), the support levers being supported by a tubular, rotationally driven and water-fed articulated tube that extends parallel to the longitudinal axis of the roller table

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(figures 1 and 2), with a central water feed pipe and an automatic control device with associated on-off valves (4) for switching the cooling water on and off, the rollers being arranged with the closest possible spacing; the lower cooling bars are arranged below the spaces remaining between the rollers and that the spray tubes of the cooling bars fit into these spaces (figure 3). Limitations of claim 5 are shown in figures 1 and 2. A drive mechanism, as required by claims 6-7 and 16, is shown as element 15.

Bender fails to teach rollers having elongated pins of smaller diameter as required by claim 1. However, Miyaguchi discloses a cooling machine runout table which teaches rollers having elongated pins of smaller diameter to hold the rollers in the frame of the rack (figures 1 and 3). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have manufacture the runout table of Bender with rollers having elongated pins of smaller diameter for the purpose of providing a reliable and costs effective way to support the rollers of the runout table in the associated framework.

Regarding claims 2 and 4, Kamio discloses a device like that of Bender which teaches that it is known to manufacture the lower cooling portion with a header having a pear shape (figures 4-8) with a neck portion (5) and spray tubes (8b) attached to the neck portion with a nozzle (8a) attached to the spray tubes. Therefore it would have been obvious to manufacture the lower cooling portion of Bender having the characteristics of Kamio, as stated above, for the purpose of providing uniform and efficient cooling of the metal stock.

Regarding claim 9, Miyaguchi further teaches use of straightedges (61) which may be advanced (through members 62, 64 and 65) towards stops (71) for the purpose of effectively conveying the metal strip along a runout table and shortening the cooling equipment thereby reducing costs of manufacturing.

Regarding claims 12-15, the claims are encompassed by the Bender reference due to the use of the term "preferably" in claim 12 which implies that such construction is not a requirement. Furthermore, for purposes of claims 12-15, spray tubes and associated nozzles of Bender read onto the current claims as they may be placed anywhere along the cooling table structure including the ends in order to emit longitudinal spray.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038), Miyaguchi (JP 11226625), Kamio et al '453, as stated above, and further in view of Nakada et al (JP 06-212278). Bender, as modified by Miyaguchi and Kamino above, teaches all of the claimed elements but for his cooling bar having a pear-shaped cross section having a neck and spray tubes as required by claim 3. Nakada discloses a device like that of Bender which teaches a header in the shape of a pear (lacking and clear structural features read onto header 3 shown in figure 2) with a neck portion (portion 3b) and spray tubes (4) held by a interchangeable retaining strip (6). Therefore it would have been obvious to construct the lower cooling system of Bender with the above features of Nakada for the purpose of reducing maintenance work and produce a quality metallic plate.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038), Miyaguchi (JP 11226625), Kamio et al '453, as stated above, and further in view of Eguchi et al '759. Bender, as modified by Miyaguchi and Kamino above, teaches all of the claimed elements but guard plates as required by claim 8. However, Eguchi discloses a device for cooling metal product from the top and bottom which teaches that it is known to provide articulated splash guard plates (21) in front of the end plates of the top spray cooler (figure 1d). Therefore it would have been obvious to incorporate the splash plates of Eguchi with the device of Bender for the purpose of guarding from water splashing.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038), Miyaguchi (JP 11226625), Kamio et al '453, as stated above, and further in view of Groch '056 and Schaming '047. Groch and is relied upon to teach that spay tubes provided in a cooling device like that of Bender is known to having structural features (funnel shape with a constricted ends) as required by claims 10 and 11 (figure 7B and 8), while Schaming is relied upon to teach that attachment of such spray nozzles is known to be carried out by a detachable plate (figure 6, plate 37). Therefore it would have been obvious to utilize the structural nozzles of Groch in an overhead cooling header of Bender along with the attachment means of Schaming for the purpose of providing an overhead cooling system which may be disassembled and reconfigured in a easy and simple manner.

Response to Arguments

Applicant's arguments filed 10/2/2006 have been fully considered but they are not persuasive. Applicants argue that there is no motivation to combine the references of Bender and Miyaguchi. In response the examiner points out that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill in the art would have the knowledge that rollers used in runout tables have been known to be mounted in a manner such that the rollers are supported on small diameter shafts/pins which allow the rollers to rotate in any desired direction (clockwise or counter-clockwise) as a reliable and cost effective way to mount rollers in such devices, for example, U.S. Patent 4,643,013 to Blazevec, col. 3, lines 45-61 which discloses such structure or U.S. 4,945,746 to Jakimowicz et al, figure 4 which also discloses such structure. Therefore as stated above, it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have manufacture the runout table of Bender with rollers having elongated pins of smaller diameter for the purpose of providing a reliable and costs effective way to support the rollers of the runout table in the associated framework.

Applicants further argue that Kamio et al does not teach a cooling bar with a pear-shaped cross-section as claimed. In response the examiner points out that a pear shape is defined as “spherical at the base and tapering at the top” in which case Kamino clearly shows a spherical base (6) with a tapered top (figures 7) and thus reads on the claimed “pear shape”.

Applicants further argue that there is no disclosure in Kamino of a cooling bar arranged beneath the rollers permitting the rollers to be as close together as possible. In response the examiner points out that lacking any clear distinguishing features/dimensions the relative terminology of “as close as possible” is seen to be encompassed in primary reference (Bender) as shown in figure 3.

Conclusion

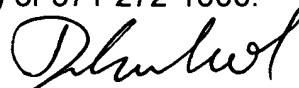
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dmitry Suhol
Primary Examiner
Art Unit 3725

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